

indexes to the messages; and synthesizing means for synthesizing the first and second information as EPG information.

According to another aspect of the invention, an information providing method includes a first generating step to generate first information including messages; a second generating step to generate second information including indexes to the messages; and a synthesizing step to synthesize the first and second information as EPG information.

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According to a further aspect of the invention, a medium is provided for storing a program that includes a first generating step to generate first information including messages; a second generating step to generate second information including indexes to the messages; and a synthesizing step to synthesize the first and second information as EPG information.

According to yet another aspect of the invention, an information receiving apparatus includes receiving means for receiving signals which have been transmitted; extracting means for extracting messages from the signals received by the receiving means; determining means for determining the types of the messages extracted by said extracting means; and display control means responsive to the result of determination by the determining means for controlling the on-screen displaying of the messages in relation to the video information.

According to a still further aspect of the invention, an information receiving method includes a receiving step to receive signals which have been transmitted; an extracting step to extract messages from the signals received at said receiving step; a determining step to determine the types of the messages extracted at the extracting step; and a display control step responsive to the result of determination at the determining

step to control the on-screen displaying of the messages in relation to the video information.

In accordance with an additional aspect of the invention, a medium is provided for storing a program includes a receiving step to receive signals which have been transmitted; an extracting step to extract messages from the signals received at the receiving step; a determining step to determine the types of the messages extracted at the extracting step; and a display control step responsive to the result of determination at the determining step to control the on-screen displaying of the messages in relation to the video information.

Ant In accordance with yet an additional aspect of the invention, an information providing system receives, with an information receiving apparatus, EPG information superimposed on video information from an information providing apparatus. The information providing apparatus includes first generating means for generating first information including messages; second generating means for generating second information including indexes to the messages; and synthesizing means for synthesizing the first and second information as EPG information. The information receiving apparatus includes receiving means for receiving signals transmitted in which the EPG information is superimposed on video information; extracting means for extracting messages from the signals received by the receiving means; and display control means for controlling the on-screen displaying of the messages extracted by the extracting means in relation to the video information.

According to still another aspect of the invention, an information providing method receives, with an information receiving apparatus, EPG information provided superimposed on video information from an information providing apparatus. At the information providing apparatus, the method includes a first

generating step to generate first information including messages; a second generating step to generate second information including indexes to the messages; and a synthesizing step to synthesize the first and second information as EPG information. At the information receiving apparatus, the method includes a receiving step to receive signals which have been transmitted; an extracting step to extract messages from the signals received at the receiving step; and a display control step to control the on-screen displaying of the messages extracted at the extracting step in relation to the video information.

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According to yet a further aspect of the invention, a medium for storing programs for use in an information providing system that receives, with an information receiving apparatus, EPG information provided superimposed on video information from an information providing apparatus. A program for the information providing apparatus includes a first generating step to generate first information including messages; a second generating step to generate second information including indexes to the messages; and a synthesizing step to synthesize the first and second information as said EPG information. A program for the information receiving apparatus includes a receiving step to receive signals which have been transmitted; an extracting step to extract messages from the signals received at the receiving step; and a display control step to control the on-screen displaying of the messages extracted at the extracting step in relation to the video information.

In the above-described information providing apparatus, information providing method, and transmission medium, the first information including the messages and the second information including the indexes to the messages are synthesized into the EPG information.

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In the information receiving apparatus, information receiving method, and transmission medium described above, the messages are extracted from the transmitted signals, and the type of the extracted messages is determined. And according to the result of determination, the on-screen displaying of the messages in relation to the video information is controlled.

In the above-described information providing system, information providing method, and transmission medium, the first information and the second information are synthesized into the EPG information. The messages are extracted from the received signals, and displayed on screen in relation to the video information.

Amend page 12, line 3 - page 13, line 19 as follows:

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An information providing apparatus is provided with the first generating means (for example a DMT generating section 33-9 in FIG. 3) for generating the first information including the messages; the second generating means (for example a rDMT generating section 33-8 in FIG. 3) for generating the second information including indexes to the messages; and the synthesizing means (for example a TS packeting section 35 in FIG. 2) for synthesizing the first information and the second information as EPG information.

An information receiving apparatus is provided with the receiving means (for example a front end section 51 in FIG. 4) for receiving signals which have been transmitted; the extracting means (for example a demultiplexer 57 in FIG. 4) for extracting the messages from the signals received by the receiving means; the determining means (for example steps S1 to S4 in FIG. 15) for determining the types of the messages extracted by the extracting means; and the display control means (for example steps S6 to S9 in FIG. 15) responsive to the result

of determination by the determining means to control the on-screen displaying of the messages in relation to the video information in the messages.

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In an information providing system, the information providing apparatus is provided with the first generating means (for example the DMT generating section 33-9 in FIG. 3) for generating the first information including the messages; the second generating means (for example the rEMT generating section 33-8 in FIG. 3) for generating the second information including the indexes to the messages; and the synthesizing means (for example the TS packeting section 35 in FIG. 2) for synthesizing the first and second information as EPG information; and the information receiving apparatus is provided with the receiving means (for example the front end section 51 in FIG. 4) for receiving signals transmitted superimposed on video signals; the extracting means (for example the demultiplexer 57 in FIG. 4) for extracting the messages from the signals received by the receiving means; and the display control means (for example the EPG processor 59 in FIG. 4) for controlling the displaying of the messages extracted by the extracting means in relation to the video information.

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Amend page 44, line 9 - page 45, line 7 as follow:

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As hitherto described, the information providing apparatus, information providing method, and transmission medium, as they are disposed to synthesize EPG information from the first information containing messages and the second information containing indexes to messages, make it possible to transmit many messages while suppressing the effect on video information, which essentially has to be transmitted.

The above-described information receiving apparatus, information receiving method, and transmission medium, as they

are disposed to display messages on screen over video information according to the result of determination of the message type, make it possible to prevent video information, on which messages are superimposed, from being recorded on a recording medium.

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The above-described information providing system, information providing method, and transmission medium, as they are disposed to synthesize EPG information from the first information containing messages and the second information containing indexes to messages, extract messages from received signals and to display the message on screen over video information, make it possible to transmit and display many messages without seriously affecting essential video information.
